

## Philosophy of Design Egyptian Banknotes Identity

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### Abstract:

The research commences by providing a definition of banknote identity and how it relies on the utilization of its varied elements. Furthermore, the scrutiny endeavors to examine banknote design policies and the accompanying culture which informs processes relating to policy development. The study describes the influence of Egyptian civilizations on the design of banknotes focusing on its architectural provision and aspects such as leadership which culminated in the region's success.

Through the study, an inquiry into the relation between the policies used in designing banknotes in comparison to stakeholders' policy is anticipated. In addition, it also focuses on adapting the use of security elements as a design element in banknotes while ensuring some balance in designing community identity. The denominations synonymous with Egypt have varying sizes and shapes. The research aims at establishing the phenomena's occurrence while highlighting the colors which accrue to banknote colors and the accompanying culture practiced in Egypt.

Egyptian banknotes incorporate features which offer an allowance for the narration of different stories. The research explains the design features utilized in banknotes to facilitate such capacities. It evaluates the symbols and images which can efficiently represent the country while scrutinizing banknote front and back design strategy. It also articulates the importance of a balance between banknote design productivity and usability.

The research concludes by presenting factors for consideration by the CBE in designing the new polymer banknotes. It focuses on the utilization of various facets affiliated with Egypt for the design of polymer banknotes by using the Egyptian civilizations arts including Pharaonic, Coptic and Islam arts. And the new Egyptian banknote design must be reflect Egypt with its full culture and arts. Moreover, it addresses strategies for improving the functionality of newly designed polymer banknotes.

### Key words:

Central Bank of Egypt(CBE), Banknote Identity, Philosophy of Design, Polymer Banknotes, Egypt Civilizations, Islamic Arts, Coptic Arts, Pharaonic Civilization, Community Culture, Banknote Design Policy, Banknote Design Strategy, (OVD) Kinegram .

### الملخص العربي:

قد أعلن البنك المركزي المصري أنه بحلول عام 2020 م. سوف يتم اصدار اوراق نقدية مصرية بوليمرية جديدة بديلاً عن الأوراق النقدية الورقية المصنعة من الياف الكتان والورق وذلك من خلال المطبعة الجديدة للبنك المركزي المصري بالعاصمة الإدارية. ومن هنا انبثقت فكرة البحث لتطوير تصميمات الأوراق النقدية المصرية الجديدة، حيث انبثقت مشكلة البحث من جانب عدم الاستفادة من ثراء الحضارات المصرية في العصور القديمة والحديثة الغنية بالعديد من العناصر العنصر الفنية المختلفة (فرعونية واسلامية وقبطية) التي هي أساس الهوية المصرية، ولكن لم ينعكس هذا على تصميم الأوراق النقدية المصرية الحالية، بل اقتصرت تصميمات الأوراق النقدية المصرية على المساجد والحضارة

الفرعونية فقط دون استخدام كل من زخارف التراث الإسلامي والقبطي الغنية بالعناصر الفنية جنباً الى جنب مع التراث الفرعوني المصري القديم.

ويهدف البحث الى تقديم تعريف لهوية الأوراق النقدية وكيف تعتمد الهوية على استخدام عناصر التصميم المختلفة، دراسة سياسات تصميم الأوراق النقدية وربطها بالثقافة الخاصة بالمجتمع، تأثير الحضارات المصرية على تصميم الأوراق النقدية التي ارتكزت على العمارة الإسلامية وملوك الفراعنة الذين كان لهم أثر في نهضة مصر القديمة، أهمية التوازن بين إنتاجية تصميم الأوراق النقدية وسهولة الاستخدام، كذلك العلاقة بين السياسات المستخدمة في تصميم الأوراق النقدية مقارنة بسياسة أصحاب القرار. بالإضافة إلى ذلك أهمية تكييف استخدام عناصر الأمان كعنصر تصميمي في الأوراق النقدية مع ضمان التوازن في تصميم هوية المجتمع و إبراز ألوان الأوراق النقدية من خلال الثقافة والحضارة المميزة للعناصر المختارة في تصميم الأوراق النقدية المصرية.

وجاءت نتائج البحث بتقديم بعض المقترحات التي يجب ان يلتفت اليها البنك المركزي في تصميم أوراق النقد البوليمرية الجديدة. ليركز على استخدام الفنون والحضارات المصرية في تصميم أوراق النقد البوليمرية الجديدة بحلول العام 2020 م. بما في ذلك الفنون الفرعونية والقبطية والإسلامية. ويجب أن يعكس تصميم الأوراق النقدية المصرية الجديدة مصر بكامل ثقافتها وفنونها وحضارتها المتنوعة لتكون الأوراق النقدية المصرية الجديدة هي الواجهة الحضارية المتداولة في داخل مصر وخارجها.

وجاءت توصيات البحث للبنك المركزي المصري بأهمية تضمين تصميم الأوراق النقدية للحضارات المصرية بكافة رموزها وفنونها، مع التأكيد على إبراز الثقافة المصرية لتعزيز هوية المجتمع مع ترميز فئات العملات المختلفة بألوان تتعلق بقيم العملات المطبوعة مع أهمية دمج تصميم عناصر الحضارات المصرية مع العناصر الأمنية من خلال تكنولوجيا الـ OVD للوصول بالأوراق النقدية المصرية الى أعلى درجات الرقي الحضاري والأمني.

#### الكلمات المفتاحية:

البنك المركزي المصري ، الهوية البنكية ، فلسفة التصميم ، العملات البوليمرية ، الحضارات المصرية، الفنون الإسلامية، الفنون القبطية، الحضارة الفرعونية، الثقافة المجتمعية، سياسة تصميم الأوراق النقدية، استراتيجية تصميم الأوراق النقدية، العناصر المتغيرة بصرياً (OVD).

#### Introduction:

The adoption of bank notes in Egypt occurred in 1899 owing to the efforts made by its National Bank. The outcome was the introduction of piastres totaling 50 with varying denominations. They range from L.E.1 to L.E.100 [3]. From 1916 to 1917, Egypt executed the addition of piastres notes which totaled 25. The currency affiliated with the nation's government included five as well as ten piastres. Currently, the Ministry of Finance assumes responsibility for their issuance. The banknotes provided by Egypt comprise two languages, that is, English and Arabic. The obverse encompasses numerals and texts in Arabic whereas the reverse fosters texts detailing in English. The numbers in the obverse acquire their detailing from Eastern Arabic whereas those indicated on the banknotes' reverse borrow heavily from Western Arabic. Islamic buildings in addition to ancient motifs encompass the designs used for bank notes. Articles circulated in 2006 revealed the intentions to facilitate the introduction of banknotes bearing L.E.200. Bank notes represent important symbols with regards to Egypt's culture. It offers a reflection of the spirit associated with the national community while offering a conduit to communicate messages from the past and present coupled with its aspirations and commitments. The study endeavors to scrutinize the philosophy of design banknote identity with respect to the new Egyptian polymer banknotes.

**Research problem:**

Despite the richness of Egyptian civilization in ancient and new ages with many various elements that help to confirm the Egyptian identity, but this is not reflected on the design of the current Egyptian banknote.

**Research Methodology:**

The research follows the analytical, descriptive approach which is based on the analysis of the philosophies of the banknote identity design.

**Research Importance:**

By 2020, the Central Bank of Egypt intends to launch polymer banknotes. And its important to combine both the Egyptian civilization identity and banknotes durability with the latest security design technology. As a result, the quality associated with banknotes would enjoy an enhancement. The advantages of polymer banknotes also relate to their friendly interaction with the surroundings in comparison to conventional banknotes. Polymer banknotes indicate increased longevity by 2.5 times as opposed to banknotes made of paper which relies on the respective geography, the nation's climate as well as culture coupled with the incorporated security features. Egypt's initiative intends to rely on the model owing to its functionality in nations such as New Zealand and the U.K [24].

**Research aims:**

The research is aim to introduce the philosophy of banknotes designing and their various elements in order to be a guide for CBE in the design of the new Egyptian polymer banknotes by 2020.

In order to achieve the objective of the research, the research plan included the following axes:

**The first axis: The correlation between the banknote design and the culture of society**

- Definition of Banknote Identity:
- Banknote design and Culture:
- The influence of Egyptian civilizations on the design of banknotes:
- Balance in designing community identity
- Banknote colors and the community culture
- Banknote Design features: Each banknote denomination tells a different story
- Which symbols and images best represent a country

**The second axis: strategy of banknote design policy**

- Banknote Design policy:
- The relation between a banknote design policy and a stakeholders' policy:
- Banknote front design strategy
- Banknote back design strategy
- The balance between banknote design productivity and usability

**The third axis: Integration between design aesthetics and security efficiency**

- Adapting the use of security elements as a design element in banknotes
- Dimensions and shapes of Banknotes

**Research:****The first axis: The correlation between the banknote design and the culture of society****Definition of Banknote Identity:**

The definition of banknote arises from how it communicates as a result of the elements incorporated into its design including its images, the colors used and the topography presented [15]. For example, LE 5 comprises a picture of the *Mosque of Ibn Tulun* which is located in Cairo on its obverse whereas the reverse showcases Hapi, the god responsible for the spreading of abundant blessings from River Nile upon adjacent valleys [20]. Apart from mosques, denominations such as LE 200 feature images of "*The Seated Scribe*," the statue comprising of the sphinx's head for LE 100 and the interior of the Edfu Temple for LE 50. The identity affiliated with bank notes stems from the values associated with a nation in addition to the feelings or emotions generally evoked. The identity affiliated with bank notes excludes the specification of its actual users, and it endeavors for the inclusion of all citizens [28]. Hence, distinguishing between bank notes also relies on the perceptions held by respective publics as a medium which facilitates exchange [5]. Moreover, they provide a unit essential for accounting purposes while facilitating the storage of value. Such functions aid the affiliation of banknotes with their identity as money.

**Banknote design and Culture:**

The design of currencies utilizes various symbols affiliated with respective societies paving the way for the people's identification with their respective cultures [19]. Egyptian banknotes conform to bilingual requirements while incorporating various Islamic as well as pharaonic monuments depending on whether scrutiny focuses on the side which uses Arabic or English. The exception to such provisions prevails in the note which connotes the 25-piastre through its incorporation of the *Eagle of Saladin* on its English side. The inclusions serve as a link between the region's culture which stems from Islamic beliefs and the varied provisions which defined ancient Egypt. In 2016, the "*Egyptian Currency Design Challenge*" commenced as one of the concepts developed by Maged Sabry's [20]. Albeit the absence of the government's involvement in the initiative, the opportunity brought together graphics designers to show the culture synonymous with Egypt and its art. As a result, the process culminating in the design of banknotes encompassed modifications of 100 and 200 Egyptian pounds [4]. The challenge serves as a reinforcement indicating the essence of culture with regards to processes affiliated with currency development.

**The influence of Egyptian civilizations on the design of banknotes:**

Egyptian civilizations emerged along River Nile as a result of its capacity to provide reliable in addition to rich soil essential in facilitating crop production. Furthermore, intricate architecture marked the civilization's existence. Such examples include the *Temple of Edfu* constructed on the bank situated to the West of River Nile from 237 to 57 BC [25]. The temple highlights the language, religion coupled with the myths prevalent in Egypt within the Hellenistic duration. The nation also relied on chariotry to perpetuate the agenda of its army. Such progressions marked the period from c.1650 to 1550BC. The provisions facilitate the designs used with regards to Egypt's banknotes. The leaders presiding over the civilization predominantly feature in adopted designs. For example, Ramesses II adorns the face of the 50pt banknote [7]. Khafra, a king presiding over ancient Egypt hailing from the *Old*

*Kingdom's* 4<sup>th</sup> dynasty, adorns the L.E.10 banknote. Creatures emanating from ancient myths affiliated with the civilization are also included- for example, the sphinx which is incorporated into L.E.100.

### **Balance in designing community identity**

Egyptian banknotes herald a story which fosters the identity attributable to the involved communities [10]. Egyptian communities indicate the influence of time in addition to space with regards to their identity. Hence, the history which governs its civilizations including the pharaonic times, Greco-Roman times coupled with the duration heavily influenced by the Coptic in addition to Islam. Furthermore, its geographic position places it within the Arab world, the Mediterranean while still retaining some influence on various African regions. Such factors extensively influence the identity attributable to Egyptians. Albeit the representation of some of the factors in the banknotes, they exclude modern identity affiliated with Egyptians. However, the CBE's design of polymers could incorporate historic and contemporary provisions facilitating community identity to ensure the achievement of the balance desired.

### **Banknote colors and the community culture**

Egyptian banknotes utilize various colors depending on the value they represent. Furthermore, they also incorporate various aspects which align with the culture and influential people with influence especially where involving Egyptian affairs. 25 pt incorporates pastel blue, different shades of grey (cool and light slate) coupled with platinum as its primary colors. The L.E.0.5 banknote makes use of pearl, almond, platinum in addition to grullo. L.E.5 banknotes incorporate slate grey, a dark shade of jungle green, some khaki as well as grullo for its primary color-scheme. Pastel purple, thistle, wenge coupled with languid lavender characterize used for the 10L.E banknote. In comparison, almond, pale goldenrod, a dim shade of grey coupled with silver contributes to 20 L.E's aesthetics. L.E.50 rely on the incorporation of grullo, pale gold, cinereous, bole in addition to gold umber with respect to its overall outlook. Other denominations similarly rely on various shades which help in their demarcation from other banknotes. They include L.E.100 which incorporates manatee, rose quartz, AuroMetalSaurus color (43.1% red, 49.8% green and 50.2% blue) in addition to Cambridge blue [17]. Khaki, cordovan, trolley grey, as well as dark chestnut, adorns either side of L.E.200. The banknotes make presentations of provisions affiliated with Egyptian culture. Religious symbols including gods and places of worship including temples adorn the nation's currency. Regardless of the denominations associated with different banknotes, a mask or the statue representing is often included.

### **Banknote Design features: Each banknote denomination tells a different story**

Banknotes act as a representation of different facets commonly affiliated with Egypt presenting varying narratives. The banknote with the denomination 25pt showcases the Ayesha mosque which also functions as one of the mausoleums in Cairo with a special focus on Sayyida Aisha. Furthermore, it also bears the Egyptian coat of arms [18]. Other denominations also feature mosques constructed within different historic periods owing to the efforts of varying dynasties. Some of the representations serve as an indicator of the achievements attributable to Egyptian civilizations. In addition, creatures and gods

characteristic of Egyptian fables adorn banknotes owing to their significance [13]. They also make presentations of temples and ancient leaders which encompass varying narratives.

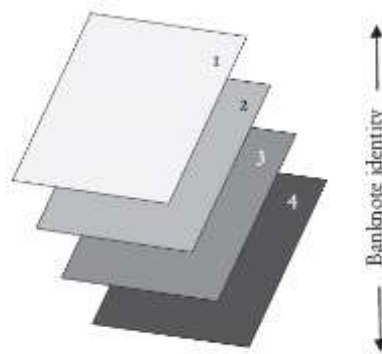
### Which symbols and images best represent a country

The symbols which accrue to Egypt are numerous including contemporary as well as ancient images. The representations herald varies meanings of significance in the lives of Egyptians. Some of the symbols serve as facets which foster an understanding of the spirituality synonymous with Egyptians. For instance, the nation's residence associate the *Eye of Horus* with various provisions such as royal power, adequate protection coupled with healing and eventually paving the way for exceptional health [27]. Other images such as djed pillar act as symbols of the strength as well as the stability affiliated with the culture practiced by ancient Egyptians. The incorporation of *The Feather of Maat* among the images used for the representation of Egypt would serve as a reminder of its quest for the acquisition of justice Ancient inscriptions include the feather particularly in circumstances aimed at ascertaining that justice is meted out [22]. Moreover, it would herald an indication of the virtues that the nation ascribes to. Symbols representing the unity of Egypt would include the incorporation of a pschent which connotes a double crown. It not only holds the red but also the crown which utilizes color white symbolizing the lower as well as the upper parts of Egypt. Furthermore, it conferred complete control over Egypt to Pharaoh. The concept still applies to contemporary Egypt as it functions as a whole.

### The second axis: strategy of banknote design policy:

#### Banknote Design policy:

The policy depends on four functions primarily associated with the design and their prioritization. Efforts to produce user-friendly designs for respective banknotes mandate the incorporation of sequences which align with the recognition of value, checking for authenticity, handling coupled with receiving the message rendering some contribution to the identity of a note issued by the bank [9]. However, central banks apply different policies with regards to their banknotes.



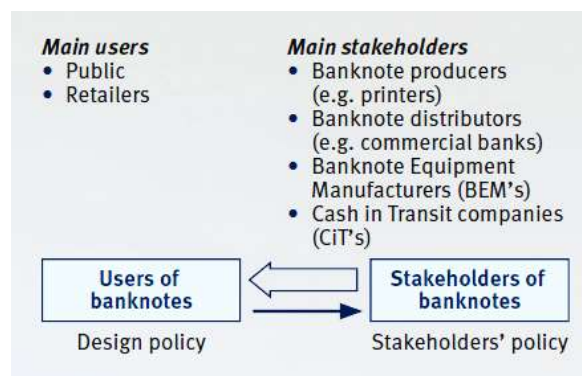
Pic No. (1) Source: [29]

Tier one of the process represents the numerals in addition to the color used predominantly in the notes. It also enshrines the image used primarily to render some contribution where value recognition is concerned [14]. Layer two connotes a banknote's capacity to fit in an individual's purse while incorporating sustainability effectively. The capacity of banknotes to remain intact regardless of the rain presents some equal importance alongside its ability to fit

into cash machines at the second tier. Thirdly, security features which incorporate some public application, way finding in addition to themes affiliated with perception as well as communication characterize the layer. Lastly, the fourth layer enshrines describing the desired identity, communicating specific messages and presentations focusing on powerful images [23]. The level also acknowledges the issuing authority while denoting significant symbols and accompanying signatures. The development of Egyptian polymers can also rely on such provisions to ascertain an enhancement in its overall functionality.

#### **The relation between a banknote design policy and a stakeholders' policy:**

Stakeholders assume the responsibility of availing the infrastructure necessary for using banknotes. They include manufacturers as well as distributors who offer the necessary support which facilitates banknote payments [11]. The view of a printer or a cashier dominates the design policies affiliated with banknotes depending on the control exerted by either party over the central bank. The views rely on technology with an extensive focus on features which indicate authenticity as well as durability properties. Currently, the policies which apply to design emphasize a scrutiny of respective handling properties particularly in circumstances involving smaller banknotes. The guidelines also enshrine the designs at a "low volume" while other situations mandate the application emergency policies. The release of emergency banknotes targets the counterfeit money in circulation, particularly where it exceeds expected levels.



**Pic No. (2) Source: [4]**

The figure showcases how design policies relate to stakeholder's policies. The tiny arrow acts as a representation of the under-developed feedback from respective users, especially where it becomes mandatory for stakeholders.

#### **Banknote front design strategy**

The design used with regards to an Egyptian banknote front side includes texts and numbers. Eastern Arabic as well as Arabic accounts for the languages used. Furthermore, structures affiliated with the Islamic religion predominantly adorn the obverse [1]. Hence, it serves as a reminder of the religion practiced by the state.

#### **Banknote back design strategy**

The back of Egyptian banknotes encompasses texts and numerals indicated in English or Hindi. Motifs which showcase ancient Egypt also adorn the reverse [16]. It serves to present various buildings, inscriptions in addition to statues.

### **The balance between banknote design productivity and usability:**

Usability emanates from a banknotes capacity to cater to the numerous requirements prevalent among users comprising of extensive options that incorporate reliability. The aspect mandates some inconsideration into different aspects such as affiliated security features and its accompanying scheme used with regards to color [6]. Security-related aspects should offer the possibility for simplified authentication creating challenges in situations leading to the creation of counterfeits. The hues selected can incorporate an optimized wheel serving to increase their usability among color-blind individuals. Regardless of the incorporation of such features, all improvements should serve to facilitate increased productivity. The outcome paves the way for heightened efficiency while overcoming imminent threats particularly involving counterfeits.

### **The third axis: Integration between design aesthetics and security efficiency**

#### **Adapting the use of security elements as a design element in banknotes**

Egyptian banknotes incorporate various elements including tone backgrounds, different fonts, and protection lines to ensure security. Some instances highlight the consideration of decorative lines. The production of fraudulent securities has culminated in security elements featuring sophistication and complexity [8]. Initially, Egypt incorporated watermarks into banknotes in the 1930s to enhance their security. The Central Bank of Egypt incorporated metallic threads into the currency as the year 1968 came to a close. The move aimed at offering some enhancement to the currency which primarily relied on complex colors, holograms coupled with other features. Currently, Egypt incorporates the utilization of holographic OVD [21]. The availability of such an advanced feature emanates from outputs affiliated with optical variable device (OVD) kinegram technology that includes (Kinegram zero.zero features, foil security, patch, stripe, continuous stripe, registered stripe, color kinegram and kinegram over window) [12]. Security aspects entail the incorporation of e-beam technologies facilitating the combination of various complex features. The improvements made on bank notes include micro-text, extensively specialized de-metallization coupled with optical elements which are diffractive. The outcome pertains to an improvement in aesthetics and their readability through available machines. Moreover, the aspects endeavored for security improvements must foster public acceptance.



**Pic No.(3) Canada Dollar series with KINEGRAM stripe over window. Source: [12]**



**Pic No.(4) New Zealand 5 and 10 Dollar with KINEGRAM ZERO.ZERO patch. Source: [12]**





Pic No.(5) England 5 Pounds with KINEGRAM COLORS. Source: [12]



Pic No.(6) 20 EURO with KINEGRAM continuous stripe. Source: [12]



Pic No.(7) Brazil 50 Reais with partially metallized KINEGRAM stripe. Source: [12]

### Dimensions and shapes of Banknotes

Egyptian banknotes exhibit some similarity with regards to their shape which includes a rectangle. However, each denomination features a varying size. The 0.25 banknote utilizes 130×70 mm as its dimensions whereas the 0.5 pt uses a size of 135×70mm [26]. In comparison, L.E.1 incorporates a size of 140×70mm as opposed to L.E.5 which uses a size of 145×70mm. The higher a denominations' value the more extensive its size. These include L.E.100 which attracts a measurement of 165×70mm in addition to L.E.200 which uses 175×80mm as its dimensions.

Design different sizes of banknotes prevent counterfeiting, and the banknotes dimensions must be acceptable to the standard sizes of wallet, cash machines and ATM's.

The variation in banknote sizing between countries in a narrow range of sizes because most countries do their banknotes printing on KBA printing machines, with the optimal note size is 73mm height and 133mm. for that all countries design their notes around that standard, and the variation in bill sizing from country to country remain to its security strategies to protect their banknotes against counterfeit [2].

### Conclusion and results:

The CBE reliance on aspects affiliated with the production of the new banknotes would foster an overall improvement with regards to the polymers it would produce. Its endeavors should encompass;

- A clear identity for the polymers while relying on the policies relating to design for an improvement in functionality.

- Aspects such as the banknote size, color and even the shape of the polymers mandate extensive consideration.
- The overall design should herald extensive improvements with regards to usability of the polymers and their resultant productivity.
- The strategy applied to develop the front as well as the back of banknotes would serve to inform the designs for polymers owing to its overall increase in productivity.

### Recommendations:

- The CBE should consider the depiction of Egyptian civilizations while coding the polymers with varying colors relating to the different currency values showcased.
- The new polymer banknotes denominations design should utilize various Egyptian arts symbols to enhance their accompanying narrative.
- The designs used for polymers banknotes should incorporate aspects of Egyptian culture to foster an identity for the community.
- the CBE should use the OVD security elements as one of Egyptian civilizations design element in banknotes

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